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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,281	11/07/2001	Jeffrey L. Browning	B129USCP2DV2CO	9658

7590 06/09/2004

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EXAMINER	
MCGARRY, SEAN	

ART UNIT	PAPER NUMBER
1635	

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No.	Applicant(s)	
	10/040,281	BROWNING ET AL.	
	Examiner	Art Unit	
	Sean R McGarry	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25,27 and 29-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *25,27 and 29-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ ~~Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)~~ Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ ~~Notice of Informal Patent Application (PTO-152)~~
6) ☐ Other: _____.

DETAILED ACTION

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 25, 27, and 29-38 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant claims are directed to methods of treating, lessening the advancement, severity or effects of HIV infection, neoplasia, autoimmune disease and inflammation or inflammatory disease via the administration of ltβ or soluble ltβ, or antibodies targeted thereto. The invention also reads on preventing inflammation or inflammatory disease via the administration of ltβ or soluble ltβ, or antibodies targeted thereto. The range of diseases to be treated is broad.

Applicant has asserted that because ltβ as set forth in SEQ ID NO:2 can present ltα on the surface of cells and because soluble forms of ltβ have been described, one of skill in the art would know how to use ltβ in a method for the suppression of the immune system, preventing, treating or lessening the advancement, severity or effects of, neoplasia, inflammation or inflammatory diseases, autoimmune diseases, or HIV infection comprising administering an effective amount of a composition that includes the full length or soluble forms of ltβ. Applicant asserts that these various and unrelated

diseases can all be treated or prevented by the administration of ltβ or soluble forms thereof. These same diseases are asserted to be capable of treatment with an antibody targeted to ltβ or a soluble ltβ. The specification asserts that a "ltα/ ltβ **may** exhibit cytolytic and cell regulatory activity similar to lt-α, TNF and CD40 proteins. [t]he membrane associated ltβ complexed with lt-α **may** represent as a complex, a novel ligand for T cell interactions. . ." (emphasis added , see pages 6-7). The specification further states that "[s]uch a molecule would have mixed functions and could possibly be used as a custom designed drug." (See page 9, lines 5-11). The specification asserts the therapeutic value of the claimed method based only on structural similarities with other known proteins and possible interactions with known proteins (see pages 8-10 and 33-34, for example) The specification essentially asserts that since the ltβ of the invention is like these other proteins it can be used to treat diseases that these known proteins are associated with. It should be noted that a review of the prior art for all the proteins used in comparison, including that cited by applicant, does not indicate that any one of these proteins whether alone or in complexes or in soluble form or antibodies direct unto can be used as in the treatment of all the diseases as claimed. For example none of the proteins and/or antibodies have been shown to treat the broad range of diseases that the instant invention requires. Browning et al [The Journal of Immunology, Vol. 147(4):1230-1237, 1991] asserts on page 1236 "Membrane forms of several cytokines have been extensively described, nonetheless, their biological relevancies still unclear . . . [u]nfortunately the biologic functions of even the secreted form of lymphotoxin remain obscure despite the apparent parallels with TNF." The lack of

correlative activity of the proteins used as comparisons for the expected activity of the ltβ of the instant invention and the statement above make it clear that one in the art would not expect such a wide range of activity for the ltβ and ltβ antibodies of the instant invention since the prior art relied upon is not correlative with that now claimed. The specification as filed does not provide guidance or examples that would show by correlation how to treat these various and unrelated diseases with ltβ. The specification provides no working examples or examples that would show by correlation the claimed invention. The specification fails to provide any direct relationship with ltβ and the broad scope or even particular diseases that would fall within the scope of diseases of the claimed methods. For example, how does one know wether to treat a particular disease with ltβ , soluble ltβ or antibodies targeted to ltβ. One of skill in the art would be led to perform undue experimentation to determine the applicability of treating a disease state with the polypeptides and antibodies recited in the instant claims. The quantity of experimentation would include the determination of whether there is any relationship between a disease state and ltβ and if there is a relationship found within the broad scope of diseases recited in the claims, whether the relationship is such that the disease state might be treated with ltβ. How does one lessen the advancement of HIV in the instant methods. All of the claims comprise only one recited step of administration of a ltβ, a ltβantibody or soluble ltβ. It is unclear how one would know how to treat such a wide range of diseases which comprise quite different pathologies with only general guidance of "administering". How does one treat an inflammatory disease by either adding ltβ or inhibiting ltβ with a ltβ antibody. Are all inflammatory diseases

interchangeably treatable in this manner? Are all neoplaias? Autoimmune diseases, for example?

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean R McGarry whose telephone number is (571) 272-0761. The examiner can normally be reached on M-Th (6:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John LeGuyader can be reached on (571) 272-0760. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SRM

SEAN McGARRY
PRIMARY EXAMINER
1635